

**REMARKS**

Claims 1-6 have been examined and have been rejected under 35 U.S.C. § 102(e) in view of U.S. Publication No. 2003/0137050 to Chambers et al. (“Chambers”).

**A. Claim 1**

Applicant submits that claim 1 is patentable over the cited reference. For example, claim 1 recites that a density of additive silicon atoms is higher in a vicinity of a top surface than in vicinities of a bottom and side surfaces of a first Cu interconnection. Claim 1 further recites that the density of the additive silicon atoms ranges between 0.01 atomic % and 8 atomic % of total atoms in the first Cu interconnection. The claimed Cu interconnection prevents both electro-migration and stress migration.

The cited reference, Chambers, discloses that the interconnect layer 310 is exposed to  $\text{SiH}_4$  to deposit silicon on the interconnect and to diffuse silicon into the interconnect (para. [0035]). However, the reference fails to teach or suggest that the density of additive silicon atoms is higher in a vicinity of a top surface than in vicinities of a bottom and side surfaces of the interconnect layer 310, where the density of the additive silicon atoms ranges between 0.01 atomic % and 8 atomic % of total atoms in the interconnection, as recited in claim 1. Accordingly, Applicant submits that claim 1 is neither anticipated nor rendered obvious in view of the teachings of Chambers.

**B. Claims 2-6**

Since claims 2-6 are dependent upon claim 1, Applicant submits that such claims are patentable at least by virtue of their dependency.

**Newly Added Claims**

By this Amendment, Applicant has added new claims 12 and 13 to provide more varied protection of the present invention. Applicant submits that such claims are patentable at least by virtue of their dependency upon claim 1.

**Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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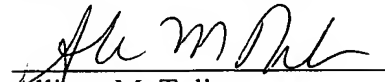
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(May 6, 2006, being a Saturday)